

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons which follow.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, are presented, with an appropriate defined status identifier.

By way of the present reply and amendment, Applicant has amended claims 1-4 and 6-8 and added new claims 9-14. Thus, claims 1-14 are now pending in this application.

Drawings

The Office Action indicates that the "proposed drawing correction filed on 10 April 2000 is approved" and required corrected drawings. In reply, it is noted that Applicant submitted formal drawings on April 10, 2000, as part of the as-filed application. No corrected drawings are believed to be required.

Allowable Subject Matter and Amendments to Claims

Applicant acknowledges with appreciation the indication in the Office Action that claims 3, 4, and 8 would be allowable if rewritten in independent form (and to overcome the minor informalities noted with respect to claim 8). In accordance with this indication, Applicant has rewritten claims 3, 4, and 8 in independent form. In order to more particularly point out and distinctly claim the present invention, Applicant has added a new independent method claim 9 that is intended to reflect features corresponding to those recited in independent claim 4. Applicant has also added new claims 10-14, which include features recited in claim 5, and depend from independent claims 3, 4, 8 and 9, respectively. Applicant submits that claims 3, 4, and 8-14 are clearly allowable based on the indication of allowable subject matter set forth in the Office Action.

In addition to the above-noted amendments, Applicant has also amended claim 1 to ensure clarity and antecedent basis for the “detection signal” subsequently recited in claim 2. Applicant has also amended claim 2 to improve the language of the claim. Applicant further has amended the method claims to delete references to “steps.” These amendments are not intended to alter the scope of the claims nor to address any issues of patentability.

Rejection Under § 103(a)

The Office Action rejects claims 1, 2, 6 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Uesugi et al., U.S. Patent No. 5,563,911, in view of Kucar, U.S. Patent No. 5,115,454. The Office Action also rejects claim 5 under § 103(a) based on Uesugi and Kucar, further in view of Fudawa et al., U.S. Patent No. 5,710,792. These rejections are respectfully traversed.

The Office Action alleges that Uesugi discloses all features of the original independent claims except for sensing the start of a reception signal on the basis of a signal representing a reception level of the reception signal. In regard to this feature, the Office Action alleges that Kucar teaches a carrier sensing means (114, 116) for sensing the reception level of the reception signal.

In reply, it is noted that while Uesugi discloses a controller 35 that is used to control operation of two equalizer circuits 33, 34, the operation of that controller 35 is different from the “control means” and “switching means” recited in claim 1. As made clear in Uesugi’s description of Figs. 5-7, Uesugi’s circuit does not alternately switch between the two equalizer circuits 33, 34 every frame as in the present invention. Rather, a segment of a burst signal as illustrated in Fig. 1 comprises “former half data,” a reference signal and “latter half data.” Equalizer 33 deals with data former half data (which extends back in time from reception of the reference signal) and equalizer 34 deals with latter half data (which extends forward in time from reception of the reception signal). (See col. 4, ll. 17-28; col. 61, ll. 61-63.) Both equalizers 33, 34 process that respective data in parallel, not alternately by frame as recited in the present invention.

Further, Uesugi's circuit of Fig. 5 does not alternatively switch between outputs from first and second equalizer units every frame reception as recited in claim 5. As shown in greater detail in Fig. 7, Uesugi's controller 35 comprises an impulse response estimator 41, a tap allocation determiner, and a switch controller 43. Uesugi describes the operation of the first two components as follows:

In response to the output from the channel impulse estimator 41, the tap allocation determiner 42 detects the timing of appearance of the main waveform component 22 (having the highest power level) with respect to time, and, on the basis of the detected timing of the main waveform component 22 (which appears as a second waveform component in Fig. 2), determines the respective numbers of taps to be allocated to the FIR type and IIR type digital filters.

(Col. 6, ll. 9-17.) Uesugi then indicates that "The switch controller 43 controls the position of each of the selector switches 7a to 7e in the equalizer according to the result of the tap allocation determined by the tap allocation determiner 42 as shown in Table 1." Thus, Uesugi simultaneously controls the operation of respective sets of switches found in both equalizers 33, 34. No means is disclosed for alternately enabling the equalizer 33 and the equalizer 34 ever frame reception. Nor is any means disclosed for alternately switching between outputs from equalizer 33 equalizer 34. Rather, it would appear that the respective outputs of equalizers 33 and 34 are provided in parallel to error corrector 36.

While the Office Action relies on Kucar as disclosing the detecting of the start of reception. Even accepting this view, however, the isolated teaching of such detection fails to teach, describe or suggest the other features of the invention, noted above, that are absent from Uesugi. Accordingly, the cited combination fails to establish a prima facie case of obviousness. Withdrawal of the rejection of claims 1, 2, 5, 6, and 7 is therefore respectfully requested.

Conclusion

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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